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**Soviet Naval Interaction with the  
United States and Its Influence on  
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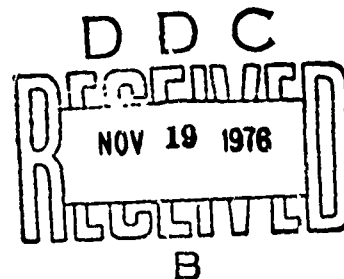
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Thomas W. Wolfe

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Thomas W. Wolfe \*

The Rand Corporation, Santa Monica, California

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I. INTRODUCTION

The present paper examining Soviet-U.S. naval interaction and its influence on Soviet naval development is drawn from a larger study still in progress on the role of the interaction phenomenon in the area of strategy-foreign policy-military posture. For purposes of presentation, the paper is set in a chronological framework of three distinct periods, selected more or less arbitrarily on the basis of broad changes in the political and strategic setting in which the postwar Soviet-U.S. relationship has evolved. A few words on the essential character of each of these periods may serve to preface the body of the paper.

The first period covers the years from 1945 to mid-1950, in which both the Soviet Union and the United States appear to have emerged from World War II without coherent long-term strategies for competing with each other as the dominant military powers of the postwar era. These first five postwar years produced a good deal of exploratory political maneuver and the gradual jelling of Soviet-American rivalry into the mutual animosity of the Cold War, but in a military sense the two countries were still essentially engaged in a process of postwar demobilization and reorganization of their forces; only toward the end of the period did new directions for future military development begin to appear. This period of temporary American nuclear monopoly was brought to a close by several watershed events: Soviet entry into the

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nuclear age; the establishment of Communist rule over mainland China; and the outbreak of the Korean War.

The second period embraces the decade of the fifties and the early years of the sixties, up to the Cuban missile crisis of 1962. The first years of this period marked a time of critical transition to intense bipolar competition and the formation of opposing military alliances in Europe, stimulated to a notable extent by the side-effects of the Korean War. During the first half of the period the United States and the Soviet Union began to revise their strategies and to redirect their military resources under the new conditions of the nuclear age, while during the latter half of the period both sides entered the missile-space age, and a change in the bipolar character of their rivalry was foreshadowed by the emergence of the Sino-Soviet dispute. In the Soviet case, the latter fifties found the USSR, under Khrushchev's leadership, moving toward a new globalism that represented a departure from the essentially continental orientation of Soviet foreign and military policies under Stalin. Soviet support of "national-liberation" movements and the initiation of Third World military and economic aid programs in the Middle East, Southeast Asia, and later Cuba, testified to the Soviet Union's ambition to widen its influence, and could be interpreted as moves to break down the policy of containment which the United States had pursued toward the Soviet Union since the late forties.

The third period covers the span of almost ten years from the Cuban confrontation to the signing of the SALT I accords in May 1972, which formally validated the Soviet Union's attainment of strategic "equality" with the United States. During this period, the Soviet Union under the Brezhnev-Kosygin regime greatly improved its global power status, significantly expanded its naval and maritime power, established a new military-political foothold in the Mediterranean, and put down a challenge in Czechoslovakia to its hegemony in Eastern Europe. At the same time, however, the Soviet Union experienced recurrent economic difficulties at home, and its worsening relations with China dictated a major diversion of Soviet military resources to Asia. In the United States, on the other hand, the domestic backlash

of the Vietnam conflict helped to bring a new administration into office and seemed to impose a variety of constraints upon American involvement abroad. The new American mood was reflected in a slogan proclaiming the need for an "era of negotiation" to replace that of "confrontation." By the close of this period it had become evident that the relationship between the two superpowers was entering a new phase: not only had their own overlapping global interests and power made it necessary for them to begin working out new rules of engagement between themselves, but at the same time their rivalry was now being conditioned by a more complex pattern of world politics than had prevailed in the earlier decades of bipolar competition.

## II. THE PERIOD FROM 1945 TO MID-1950

### 1. European Focus of Immediate Postwar Military Alignments

The most critical arena in which interaction between Soviet and American military power took place in the immediate postwar period was doubtless Europe, where both sides had deployed the bulk of their wartime ground and air strength for the defeat of Nazi Germany. At war's end, the United States and its Western partners began an abrupt demobilization which by 1947-1948 left only about ten loosely-coordinated allied divisions in Western Europe. The Soviet Union also undertook a substantial reduction of its forces from their wartime peak of around 12,000,000 men and some 500 divisions, but the forces kept under arms by the Soviet Union remained very large in comparison with the Western total, coming to about 175 divisions by 1948.<sup>1</sup> Whatever the actual dimensions of the Soviet demobilization may have been, a combined-arms force of around 30 Soviet divisions plus tactical support aircraft was left in place in occupied Germany and elsewhere in East Europe.

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<sup>1</sup> Most of the 175 Soviet divisions were understrength, and many of them doubtless could not be considered operational. Just how many remained in an operational status, however, has never been established. Likewise, the total number of men kept under arms has been a contentious issue. The official Soviet figure first given by Khrushchev in 1960 placed the figure at 2.3 million in 1943, while Western estimates have put it at about 4 million in the 1947-1948 period.

It was this visible Soviet military presence at the threshold of Western Europe -- and its role in facilitating the gradual absorption of the East European countries into the Communist fold -- which gave rise initially to serious concern in the West that an "imbalance of forces" existed that might prejudice the postwar security of Europe. Although much of the impetus for the subsequent rearming of Western Europe undoubtedly derived in one way or another from an underlying fear that postwar Europe lay exposed to preponderant Soviet conventional power, response to this implied threat in the early postwar years actually involved little in the way of direct military countermeasures in Europe. The initial commitments of American assistance to Europe were primarily political and economic through such avenues as the Truman Doctrine and the Marshall Plan in 1947, and where military aid was vouchsafed to discourage or contain Soviet encroachments, it concerned mainly countries peripheral to Western Europe like Iran, Greece, and Turkey. Even when the United States took the unprecedented step of committing itself to the military defense of Europe through the North Atlantic Treaty Organization in April 1949, the requisite forces to support this new alliance remained largely on paper, except for the as yet relatively modest American strategic delivery capability and a navy that had primarily devoted its wartime effort to the conflict with Japan and was still uncertain what its postwar vocation was to be.

From the Soviet viewpoint, the early postwar situation in Europe was one in which the Soviet Union had little to fear from the remnants of allied military forces left in Western Europe. Not only had the Western allies acquiesced to Soviet hegemony in Eastern Europe and made clear through demobilization that they did not contemplate trying to dislodge the Soviet armies there by force, but in Western Europe itself recovery from the political and economic dislocations of the war was manifestly the first order of business.

Given these circumstances, Stalin's decision to maintain a substantial forward deployment of Soviet military forces after the war would appear to have been primarily based on such broad considerations as the need to underwrite the political division of Europe and the conviction that Europe was the central and decisive arena of world

politics, and hence a region in which the Soviet power position must be made secure. In at least one respect, however, interaction between the Soviet Union's postwar military posture and that of the United States may have been an important factor in Stalin's determination to keep strong Soviet theater forces deployed in Europe. The kind of continental military power at the disposal of the Soviet Union was ill-suited to bring direct pressure to bear on the United States, whose sources of strategic nuclear and maritime power lay largely beyond Soviet reach. However, by keeping visible elements of its conventional forces deployed in the European theater, and by taking care not to dispel the impression that they were prepared for a rapid advance to the Atlantic, the Soviet Union could in effect hope to make Western Europe a hostage for American good behavior. Although the extent to which Stalin had actually embraced a specific concept of "hostage Europe" remains subject to historical dispute,<sup>2</sup> it would appear that the Soviet postwar stance in Europe was shaped to a significant degree by Stalin's having banked on the threat of Soviet land power as the main counterpoise to U.S. nuclear power.

## 2. Aims of the Soviet Union's First Postwar Naval Programs

As a major continental land power but a relatively weak sea power whose naval operations in World War II had been confined largely to enclosed home waters, the Soviet Union found itself after the war facing a potential coalition that would have most of the world's naval power at its disposal. The initial Soviet reaction, coming at a time when postwar economic reconstruction and the claims of other elements of the armed forces were making heavy demands on Soviet resources, did not suggest a Soviet decision to challenge the surface supremacy of Western naval power. Rather, the Soviet Union's first postwar naval programs seemed to be aimed in two directions: to carry on the traditional role of supporting the seaward flanks of the ground forces and defending

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<sup>2</sup>For discussion of this point, see Thomas W. Wolfe, *Soviet Power and Europe: 1945-1970*, Johns Hopkins Press, Baltimore, Maryland, 1970, p. 33.

Soviet coastal areas; and to prepare for a new mission of interdicting Western sea communications, especially those between the United States and Europe. For the latter mission, emphasis was placed on building up the Soviet submarine fleet, drawing in part on German submarine technology and boats acquired through reparations. For example, the first modern attack submarine of the postwar building program, the W-class, of which close to 200 units were built beginning in the late forties, was influenced by the German Type XXI design, as was its Z-class follow-on, construction of which began in 1951.<sup>3</sup>

Although a large submarine program oriented toward interdiction might be considered the logical response of a continental power to superior Western naval strength, Soviet naval ambitions under Stalin evidently did not stop there. By 1950, it would appear, the naval leadership had gained Stalin's approval for a 10-year construction plan providing for expansion of the surface fleets and to include, in addition to several classes of cruisers and destroyers, at least four aircraft carriers.<sup>4</sup> Because this program of surface-ship construction was sharply curtailed shortly after Stalin's death and before any carriers were laid down,<sup>5</sup> it remains unclear whether the path of Soviet naval

<sup>3</sup> Siegfried Breyer, *Guide to the Soviet Navy*, United States Naval Institute, Annapolis, Md., 1970, p. 47.

<sup>4</sup> See Robert W. Herrick, *Soviet Naval Strategy*, United States Naval Institute, Annapolis, Md., 1968, pp. 63-64.

<sup>5</sup> The history of periodic Russian interest in carriers is a long one which goes back to the Imperial Navy in World War I, when two sea-plane carriers accommodating eight aircraft each were first used in a bombing raid along the Black Sea coast in 1916. During the late thirties, Stalin contemplated a carrier program and sought unsuccessfully to obtain designs from the United States. According to unverified accounts, a carrier was actually laid down in the Marti yard at Leningrad around 1940, but the project was abandoned when war came. After World War II, the Soviets obtained the only German carrier, the damaged *Graf Zeppelin*, but it sank under tow to Leningrad in 1947. Had this ship not been lost, it might have become the nucleus for the postwar carrier program authorized by Stalin but later cancelled under Khrushchev.



development would have tended to follow that of the United States, especially with regard to creating offensive striking forces built around aircraft carriers.

As it turned out, Soviet naval development was to move in new directions under Stalin's successors, with the adaptation of missile technology to naval warfare marking the prime step in modernizing the Soviet navy. The crucial decisions behind the new course of naval development, which were not taken until about the mid-fifties,<sup>6</sup> apparently were the product of both a technologically innovative naval command and a perceived need to optimize Soviet naval capabilities against the kinds of threats posed by U.S. sea power. The fact that resources available to the Soviet navy remained rather severely constrained may also have served as a spur to innovative thinking with regard to future naval development.

In the case of the United States, there was relatively little reaction in the early postwar years to Soviet naval activity. Any real challenge on the seas from the Soviet Union appeared to lie far in the future, and like the rest of the American military establishment, the U.S. Navy was going through a process of retrenchment which included mothballing a large part of the wartime surface and amphibious forces, and a major cutback in naval air strength. Although still dedicated to the concept of attack carriers as the heart of the navy's offensive striking power, the United States essentially rested on its oars in this field; in fact, a new carrier approved in 1948 -- as a step toward modernization of this element of U.S. naval power -- was cancelled the following year. For all practical purposes, awareness of the Soviet Union as a serious naval competitor and innovator was not to become a significant factor in U.S. naval planning for almost a decade-and-a-half after the end of World War II.

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<sup>6</sup>Useful background on factors influencing these decisions may be found in Nicholas G. Shadrin, *Development of Soviet Maritime Power*, unpublished doctoral dissertation, George Washington University, Washington, D.C., June 1972, Vol. I, pp. 101-110. See also pp. 9-14 below.

### III. THE 1950-1962 PERIOD

#### 1. Continued Western Perception of the USSR As a Second-Rate Sea Power

During the greater part of this period there continued to be relatively little American concern over the naval aspects of Soviet military power, except for the interdiction threat posed by the large Soviet submarine force in the event hostilities in Europe should require extended sealift support from the United States. Some critics of the alleged tendency of the U.S. Navy to rest on its laurels in the absence of a significant postwar challenge on the high seas have charged that there was even failure to perceive the threat of the modern submarine in its full dimensions.<sup>7</sup> Although Stalin had launched an ambitious surface-ship construction program by 1950, as noted above, much of the program was suspended shortly after his death in 1953, and the Soviet Union therefore appeared likely to remain indefinitely a second-rate sea power, ranking far behind the United States in most of the major elements of naval power, apart from submarines. Khrushchev's own publicized pronouncements in the mid-fifties on the obsolescence of large surface warships, and the suspected low regard of the Soviet ground forces-dominated high command for naval power, contributed to this impression in the West.

Somewhat later, the Western impression that the future development of the Soviet Navy had faced a crisis after Stalin's death was confirmed by such Soviet naval leaders as Admiral S. G. Gorshkov, under whose energetic leadership the fortunes of the Soviet Navy began to improve from the mid-fifties on. Writing retrospectively in 1967, Gorshkov said: "Unfortunately, we had some quite influential 'authorities' who believed that the appearance of nuclear weapons meant that the Navy had completely lost its significance as a branch of the armed forces. In their opinion, all the basic tasks of a future war could be resolved without participation of the Navy at all. . . . Not

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<sup>7</sup> See, for example, Captain Robert H. Smith, USN, "A United States Navy for the Future," *United States Naval Institute Proceedings*, March 1971, pp. 19, 21.

infrequently, it was claimed that land-based missiles alone would suffice for the destruction of surface strike forces and even of submarines."<sup>8</sup> It is not entirely clear who the "influential authorities" were whom Gorshkov had in mind, but related evidence would suggest that they included Marshal Zhukov and other military leaders with ground forces backgrounds, and perhaps for a time, at least, Khrushchev also.

At any rate, only toward the end of the 1950-1962 period, after it gradually became apparent that the Soviet Union under Khrushchev had not called a halt to further naval development but rather had diverted it in new directions to take advantage of missile technology, did the United States begin to look upon the Soviet Union as a potentially serious naval competitor.

## 2. Effect of U.S. Strategic Threat on Soviet Naval Development

By contrast with the low level of U.S. reaction to Soviet naval forces in the early and mid-fifties, the Soviet Union was certainly more responsive to the threat posed by American naval power, showing itself particularly sensitive to the problem of countering U.S. carrier strike forces. In retrospect, many observers trace the beginnings of a process of "optimizing" the Soviet Navy against its U.S. rival to this period when the strategic nuclear threat from carriers began to loom large but the Soviet Union's resources for countering it by building up carrier forces of its own remained limited. According to some expositions of the reaction thesis, it was almost solely Soviet response to the strategic delivery threat, as first embodied in U.S. carrier strike forces and subsequently in the Polaris SLBM force, which drove Soviet naval development in the direction of a special-function force optimized for strategic warfare missions.

In this view, even the later forward deployment of Soviet naval power which began about 1962, and which marked the emergence of a "blue-water" navy, was essentially the continuation of an effort to engage the seaborne strategic threat as far off-shore as possible, rather than a step toward a worldwide general purpose naval capability.<sup>9</sup>

<sup>8</sup> S. G. Gorshkov, "The Development of the Soviet Naval Art," *Morskoi Sbornik*, No. 2, February 1967, p. 19.

<sup>9</sup> A leading exponent of the thesis that defensive reaction to the strategic nuclear threat has dominated Soviet naval development is

There is certainly no doubt that Soviet perception of a threat from carrier-borne aircraft influenced the development of countering Soviet naval programs in the fifties. Beginning in 1952, after a six-year postwar pause in carrier construction, the U.S. Navy had started building a new series of large, modern attack carriers. This building program, incidentally, had in part been stimulated by the same U.S. reaction to the Korean War which had given impetus to the buildup of SAC in the early fifties, and it also owed something to internal institutional rivalry which encouraged the U.S. Navy to seek its own share of the funds that Congress seemed willing to devote to offensive strategic weapons systems.

By 1958, seven of the new strike carriers had been laid down, three older carriers had been extensively modernized, and the introduction of longer-range nuclear delivery aircraft such as the A-3D had begun, permitting wider areas for carrier operations against the Soviet Union, including the Mediterranean. In the latter instance, it has been observed that Soviet deployment of a submarine squadron to a base at Vallona in Albania in the fifties might be considered a countering move to the prior appearance of CVAs in the Mediterranean.<sup>10</sup>

That the Soviets perceived the growth of U.S. carrier strike forces as a serious threat seems hardly open to question, judging both

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Commander Michael McGwire, a retired British naval officer. For statements of McGwire's views, see the papers "Soviet Naval Capabilities and Intentions" and "Soviet Naval Procurement," both reprinted in the *Congressional Record*, July 1, 1971, pp. E-6850ff. A critique of some aspects of McGwire's thesis by James Cable, "Political Applications of Limited Naval Force," may be found in the same issue of the *Congressional Record*. A treatment which recognizes the influence of changing technology and geography on Soviet perception of the carrier and *Polaris* threats, but which is less inclined than McGwire's analysis to posit these threats as the exclusive driving force behind Soviet naval evolution, is given in the previously-cited doctoral dissertation by Nicholas G. Shadrin, pp. 102-130. For another critique suggesting that McGwire's thesis of a Soviet naval response coupled exclusively to the U.S. strategic threat represents overstatement, see Robert G. Weinland, *The Changing Mission Structure of the Soviet Navy*, Paper No. 80. Center for Naval Analyses, Arlington, Va., November 1971.

<sup>10</sup> See Geoffrey Jukes, *The Indian Ocean in Soviet Naval Policy*, Adelphi Papers No. 87, May 1972, The International Institute for Strategic Studies, London, p. 5. Another form of Soviet reaction to strategic threats from the Mediterranean can be said to have occurred when it was announced in the spring of 1963 that a *Polaris* sub was on patrol there; shortly thereafter, the Soviet Union advanced one of its

from the programs adopted to counter the threat and its treatment in Soviet military literature in general.<sup>11</sup> However, it is less clear whether Soviet assessment of the threat was clouded by misperceptions that may have had a definite impact on Soviet naval planning. Some analysts, including Commander McGwire, believe this was the case.

Among the misperceptions charged to the Soviets was the initial view, *circa* 1953-1954, that the threat of U.S. carrier-borne aircraft was limited largely to Soviet naval base areas in the north.<sup>12</sup> This Soviet assessment is said to have been revised two or three years later when the Soviets realized that A-3D aircraft could reach Russia's industrial areas from the Norwegian Sea and the Eastern Mediterranean. Similarly, another Soviet misreading supposedly applied to the original *Polaris* program, which was first evaluated as posing only a complementary threat along with carriers from the northern arc. Again, this assessment is said to have given way about 1961 to realization that the *Polaris* threat was not limited to the Arctic, but extended through 270° of arc from the Norwegian Sea to the Indian Ocean. Whether in fact the Soviets at first consistently underrated the geographic and technological potential of these seaborne threats is difficult to document. If they did so, however, and if their subsequent re-evaluations generated fundamental changes in Soviet naval programs, then this would at least imply a high degree of countering reaction to the U.S. seaborne strategic threat.

On the other hand, though the evolving character of the seaborne threat can be said to have spurred Soviet efforts to counter it farther out to sea, the same logic can hardly be stretched to account directly for the priority also given by the Soviet Union to acquiring a capability for submarine delivery of nuclear weapons against strategic

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recurrent proposals to designate the Mediterranean a nuclear-free zone. However, the sustained deployment of significant Soviet naval forces to the Mediterranean began only in 1967, by which time other motives in addition to countering the U.S. strategic threat also appeared to be involved.

<sup>11</sup>See Thomas W. Wolfe, *Soviet Strategy at the Crossroads*, Harvard University Press, Cambridge, Mass., 1964, pp. 185-186.

<sup>12</sup>See McGwire, in *Congressional Record*, July 1, 1972, p. E-6852.

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targets in the United States. In short, this offensive mission, which would also require forward deployment, does not seem to square with the thesis that a defensive reaction to a technologically and geographically expanding U.S. strategic threat can adequately account for the course of Soviet naval evolution.

### 3. Important Soviet Naval Decisions of the Mid-Fifties

Whatever the merits of the argument that Soviet naval programs since the mid-fifties have been almost entirely tied to Soviet perception -- and periodic misperception -- of the strategic threat from the sea, it would appear, as Admiral Gorshkov once asserted, that decisions taken in the mid-fifties did indeed mark "a new stage in the development of the Navy."<sup>13</sup> At least three important choices bearing on future Soviet naval development apparently were embodied in the decisions of the mid-fifties.

One of these was to create "an ocean-going Navy" capable of "conducting combat operations" in either nuclear or non-nuclear wars, and also of "supporting state interests at sea in peacetime."<sup>14</sup> A second choice was predicated upon a "radical change in the technical base,"<sup>15</sup> and involved an innovative concept which may have owed as much to internal competition for resources with other elements of the Soviet armed forces as to external competition with the United States. It amounted essentially to opting for a variety of missile systems which did not require large capital ships,<sup>16</sup> but which could be packaged aboard smaller surface ships, submarines, and long-range aircraft. A third important choice was a negative decision to forego the building

<sup>13</sup> *Morskoi Sbornik*, No. 2, February 1967, p. 20.

<sup>14</sup> *Ibid.*, p. 20.

<sup>15</sup> *Ibid.*, p. 20.

<sup>16</sup> It may be noted that a tendency to proclaim the decline of large capital ships has been a recurrent theme in the history of Soviet naval affairs, often interpreted as a rationalization for economic and technical obstacles to their construction. Whether the mid-fifties decisions to make missile-platforms of smaller ships and submarines should be regarded mainly as a further example of such rationalizing, or as an imaginative move consonant with the actual passing of the "big ship era" in naval affairs, remains for future historians to settle.

of large attack carriers, although the idea of helicopter carriers configured for anti-submarine warfare apparently remained an open option which was later taken up, before Khrushchev left the scene, with the start of construction of the *Moskva* class of ASW helicopter carriers.

Precisely when the decision against postwar construction of attack carriers may have been taken has not been established, but circumstantial evidence suggests that it probably came within a year or two after Stalin's death, and perhaps shortly after Gorshkov was chosen by Khrushchev to succeed Admiral N. G. Kuznetsov as head of the navy in 1955. As late as 1951, Kuznetsov is reliably reported to have said while briefing a group of subordinate officers that carriers would become available "before long," implying that Stalin had approved renewal of the carrier construction project he had suspended prior to World War II.<sup>17</sup> Gorshkov subsequently defended the negative decision against postwar carrier construction in terms suggesting his own participation in the decision at the time other Stalinist programs for capital surface ship construction were being cut back.<sup>18</sup> The primary grounds he gave were the increasing vulnerability of large carriers in the nuclear-missile age and the assertion that carriers could not "compare with the striking power of underwater and air forces," presumably meaning land-based aircraft in the latter case. Another unstated consideration may have been the high cost of large modern carriers, plus the long development lead time necessary before the Soviet Union could hope to have even a few operational carriers at sea,<sup>19</sup> thus making a matching effort to compete with the West in carrier strike forces a rather dim prospect.

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<sup>17</sup> See Herrick, *Soviet Naval Strategy*, p. 64; Commander T. G. Martin, USN, "A Soviet Carrier on the Horizon?" *United States Naval Institute Proceedings*, December 1970, pp. 49-50.

<sup>18</sup> *Morskoi Sbornik*, No. 2, February 1967, p. 19.

<sup>19</sup> According to some estimates, the period involved to acquire an initial carrier would be on the order of seven years, with about five more years required before a small number of operational carriers could be available. See Breyer, *Guide to the Soviet Navy*, p. 193; James D. Hessman, "The Soviet Union Moves Ahead," *Armed Forces Journal*, August 17, 1970, p. 30.



Implementation of the various naval policy decisions of the mid-fifties was strung out through the ensuing years of the Khrushchev period and into the regime of his successors, so that it is difficult to ascertain whether a single "optimal" plan of naval development was adhered to or whether the Soviets continued to feel their way among various alternatives for coping with the changing character of the Western naval threat. At any rate, some of the steps set in motion under Khrushchev can be identified. One of these was to change the composition of the land-based naval air arm by introducing Badger medium jet bombers armed with air-to-surface missiles<sup>20</sup> and a few long-range Bear turboprop bombers, thus converting what had been essentially a short-range air arm, suitable mainly for coastal operations and air defense of littoral areas,<sup>21</sup> into a force with improved offensive and reconnaissance capabilities against Western naval forces at sea.

Another series of steps marked the beginning of a dual process of converting some conventionally-armed Soviet surface ships to missile armament and of introducing new destroyer and cruiser classes designed from the start as missile-launching platforms. This process, which was initially focused upon adapting surface-to-surface cruise missiles to naval use, began in 1957 with modification of the *Kotlin*-class destroyer to carry the SS-N-1 cruise missile; the product of this mating became known as the *Kildin*-class, of which only four units were built. Shortly thereafter, the *Krupnyi*-class destroyer, designed as a surface-to-surface missile ship, was laid down, with eight subsequently to be built. Parallel with these milestone programs, which gave destroyers a missile striking capability of 100 to 150 miles, shorter-range surface-to-surface

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<sup>20</sup> By the end of the 1950-1962 period under discussion here, the naval air arm had received some 300-400 Badgers capable of launching air-to-surface cruise missiles. *The Military Balance: 1963-1964*, Institute for Strategic Studies, London, September 1963, p. 4.

<sup>21</sup> A substantial reduction in the overall aircraft strength of the naval air arm at this time was due largely to transfer out of interceptors as the air defense mission in coastal areas was progressively taken over by the PVO.

missiles (the Styx of about 20 miles range) were installed in some *Komar*-class patrol boats, followed by similarly-equipped *Osa*-class patrol boats.

Sometime during the process of introducing surface-to-surface missile capabilities into the Soviet surface fleet in the late fifties, it evidently became apparent that a serious deficiency would exist in providing air defense protection for ships obliged to operate beyond land-based air coverage. The answer to this problem was sought both by converting some existing ships into SAM platforms<sup>22</sup> and by laying down new destroyer and cruiser classes designed to carry surface-to-air missiles and in some cases combining air defense and surface-to-surface missile armament, as well as ASW rockets.<sup>23</sup> Most of the guided missile ships to be produced under these programs did not begin to appear until after 1962, but the basic reorientation of future surface force development around such ships had become established by the early sixties.

One point of interest here is why the incorporation of air defense missilery lagged several years behind the first adoption of surface-to-surface missiles for anti-ship purposes, particularly since SAM technology was already available. While the explanation may lie partly in technical difficulties of adapting land-based defensive systems to shipboard use, other factors, such as a poor institutional interface between the land-based PVO and the Navy, or simply a higher priority on offensive missile packages, may have entered the picture also. The rationale for first concentrating on anti-ship offensive missiles could be explained, for example, as an expedient measure to counter the carrier threat. That is, surface units fitted to fire surface-to-surface

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<sup>22</sup>The first of these steps, apparently initiated in 1960 or 1961, was conversion of a *Sverdlov*-class cruiser, the *Dzerzhinski*, into a SAM platform, using a naval version of the SA-2 Guideline missile.

<sup>23</sup>The first new class to combine surface-to-surface and air defense missile armament was the *Kynda*-class cruiser. The first keel of this class was laid in Leningrad in June 1960. It was equipped with the SA-N-1, a naval version of the SA-3 Goa air defense system. For details on other surface ship conversions and new classes which followed the *Kynda*, see Breyer, *Guide to the Soviet Navy*, especially pp. 255-275. See also pp. 26-32 below.

missiles in an initial surprise attack against a U.S. carrier might have been considered expendable but capable of creating enough damage to permit submarines and aircraft to finish the job.<sup>24</sup>

#### 4. Expanded Soviet Submarine Program Under Khrushchev

Although surface ship programs received more attention in the latter fifties than Khrushchev's denigration of surface warships might have suggested, the principal Soviet naval effort during his regime clearly lay in the submarine field.<sup>25</sup> Here, Khrushchev had inherited an active building program centered on W and Z-class long-range attack submarines. This program was not slowed down when Stalin's surface-ship construction plans were cut back. Rather, the cutback freed some shipbuilding resources for an accelerated submarine program<sup>26</sup> -- in keeping with the mid-fifties decisions to mate missile technology with the submarine to provide both a strategic strike capability and to counter the U.S. carrier threat.

Whether these two missions shared equal priority at the time is difficult to say, but chronologically at least, a project for developing a ballistic missile capability, more suitable for striking land targets than for anti-ship use, apparently came slightly ahead of the first Soviet cruise-missile project. Incidentally, the popular conception that the Soviets turned to missile-launching subs only after observing the U.S. example does not stand up. Shortly after World War II the Soviets showed some interest in an abortive German project for firing the V-2 ballistic missile from a submarine-towed container. A serious

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<sup>24</sup>This is essentially the rationale attributed to the Soviets by Admiral Elmo R. Zumwalt, U.S. Chief of Naval Operations. See his interview, "Where Russian Threat Keeps Growing," *U.S. News & World Report*, September 13, 1971, p. 75.

<sup>25</sup>In the postwar years from 1945-1970 the Soviet Union produced 14 new classes of submarines, many of which had several distinct variants. The great majority of these were built or authorized during the period Khrushchev was in power.

<sup>26</sup>The post-Stalin cutback in surface naval ship construction not only freed considerable shipbuilding capacity for conversion to submarine construction, but it also permitted the use of some vacated building ways in Leningrad and Black Sea yards for commercial ship construction, thus

Soviet effort to develop the submarine as a missile-launching platform was underway at least as early as the U.S. experiments with the *Regulus* cruise missile which preceded initiation of the *Polaris* program in early 1957.

The first Soviet program to bear fruit was the modification of a Z-class diesel submarine<sup>27</sup> for surface launch of a ballistic missile (probably the SS-N-4 of about 300 nautical mile range), the first firing of which reportedly took place in September 1955. Roughly parallel with this program, the first of a series of modifications of the W-class<sup>28</sup> was begun to test the cruise-missile concept that was to become the basis for submarine-launched missile systems primarily intended to counter the Western carrier threat. Both the ballistic and cruise-missile systems initially tested on modified W and Z-class diesel subs were incorporated in follow-on classes of diesel and nuclear-powered submarines which began building in the late fifties and early sixties.<sup>29</sup>

In interaction terms, it would thus seem that the initial Soviet moves to incorporate missile technology into the expanding submarine program of the fifties owed little to American technological or conceptual example, although response to the operational threat of U.S.

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giving the Soviet merchant marine its first big boost under the Khrushchev regime. See Shadrin, op. cit., Vol. II, p. 388.

<sup>27</sup> The missile-carrying conversion of the Z-class, of which about ten units were modified, became known as the Z-V class.

<sup>28</sup> The W-class diesel submarine, the first modern attack type of the postwar building program, proved to be the workhorse of the Soviet submarine fleet for many years. Large numbers of at least six different attack versions were built, in addition to smaller numbers of three modified designs for firing cruise missiles.

<sup>29</sup> The initial ballistic missile system, the SS-N-4, which had to be fired from the surface, was fitted into the G-class diesel and the H-class nuclear submarines. A longer-range (700-mile) ballistic missile system, the SS-N-5, capable of submerged launch, was subsequently incorporated in conversions of both G and H-class subs. The initial cruise missile system, a submarine version of the SS-N-3 derived from the land-based Shaddock, was fitted into J-class diesel and E-class nuclear subs. All of these missile-firing submarine classes preceded the nuclear-powered Y and C-classes which were to appear toward the end of the sixties, and which were fitted respectively with raw ballistic and cruise missile systems.

largely in terms of reaction to the longer reach of American seaborne strategic arms, Soviet naval forces were also taking on new responsibilities for support of worldwide Soviet political interests linked in no direct way with homeland defense. In the latter connection, it is of some interest that Admiral Gorshkov, in a recent series of articles on the historical development of the Russian and Soviet navies, chose to emphasize the theme that Imperial Russia's rulers paid heavily for not understanding "the significance of sea power" in the "attainment of political goals."<sup>51</sup>

To some extent, Soviet economic interests were probably also involved in the outward thrust of the Soviet Navy in the latter sixties. From the close of the Khrushchev period in 1964 through 1970 the Soviet merchant fleet had grown from about 6 million to more than 15 million deadweight tons, and the Soviet Union had become progressively more engaged in international trade and shipping.<sup>52</sup> It is worth noting that a large Soviet merchant fleet without global naval forces to stand behind it would tend to offer hostages to Western naval power in the event of a crisis; thus, this potential constraint on Soviet policy may have been among the incentives for extending the blue-water reach of the naval forces.

### 3. Soviet Naval Building Programs

The increasing visibility of the Soviet Navy during the sixties was largely a function of its progressive shift to forward deployment, but at the same time building programs for both the submarine and surface forces were also gradually changing its structure. These programs were by no means all carried out on a smoothly-meshed and uninterrupted basis; indeed they seemed prone to a more-than-average quota of reconfigurations, backfitting, and other readjustments. Whether this was primarily due to

<sup>51</sup>See S. G. Gorshkov, "Navies in War and Peace," *Morskoi Sbornik*, No. 4, April 1972, p. 23.

<sup>52</sup>See Fairhall, op. cit., pp. 119-148. See also: Shadrin, op. cit., pp. 292-299; *Soviet Sea Power*, Center for Strategic and International Studies, Georgetown University, Washington, D.C., June 1969, pp. 73-92.

in the late fifties to inspire estimates that the Soviet Union would be capable of mounting a "devastating" attack against the United States by ballistic-missile launching nuclear submarines "early in the 1960s."<sup>33</sup>

Such estimates, like the parallel "missile gap" alarm over a prospective Soviet land-based ICBM threat, tended to be somewhat premature. The strategic attack potential of Soviet missile submarines by the close of the 1950-1962 period remained quite limited, with the Soviet SLBM program lagging well behind the rapid growth of the American *Polaris* fleet in the early sixties. It was only after a hiatus of some five years from 1962 to 1967, during which Soviet submarine designers carried out a major effort to develop a ballistic missile submarine technology roughly comparable to that of the *Polaris*, that the Soviet Union was to find itself in a position to begin closing the margin in SLBM forces between itself and the United States.

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<sup>33</sup> *Report of the Underseas Warfare Advisory Panel to the Subcommittee on Military Applications*, Joint Committee on Atomic Energy, U.S. Congress, Government Printing Office, Washington, D.C., 1958, p. 3.

#### IV. THE PERIOD FROM 1963 TO EARLY 1972

##### 1. Shift to Forward Pattern of Soviet Deployment

In the period from the Soviet decisions of the mid-fifties which charted a new path of naval development until after the Cuban crisis of 1962, the Soviet navy remained largely restricted to the traditional home waters of its four territorial fleets, even though new technologies introduced into the submarine and surface building programs were gradually transforming the character of Soviet naval power during these years. Only the submarine forces had begun training for long off-shore cruises and occasional under-ice operations in the Arctic, and even in this case, as a Soviet admiral later acknowledged, "the technology was basically ready for long cruises, but the men turned out to be insufficiently ready psychologically."<sup>34</sup>

Not only because the "visibility" of the Soviet navy in out-of-area operations was still quite low in the period from the mid-fifties into the early sixties, but also because Soviet naval power played no role to speak of in such recurrent crises of the period as Suez, Lebanon and Cuba in which displays of a U.S. naval presence proved an influential factor,<sup>35</sup> there was relatively little occasion for direct interaction with Western naval forces and, on the whole, the Soviet navy was not yet perceived as presenting a significant challenge on the high seas to Western naval power.

This situation began to change, however, after the Cuban missile crisis, which itself had produced a close but short-lived interaction between U.S. naval forces and Soviet supply vessels en route to Cuba.

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<sup>34</sup>Rear Admiral A. Gontayev, "The Path to the Ocean," *Morskoi Sbornik*, No. 10, October 1971, pp. 47-52.

<sup>35</sup>During this period, the U.S. Navy, by contrast with its Soviet counterpart, was enjoying what one essayist has called a "kind of Golden Age" in terms of "Cold War prestige." Captain Robert H. Smith, USN, *United States Naval Institute Proceedings*, March 1971, p. 19.

During the next five years -- prior to the Arab-Israeli conflict of June 1967, which was to bring the Soviet Navy's emergence from its home waters dramatically into the public eye -- there was a gradual but steady shift toward a more forward pattern of Soviet naval deployment. This included the extension of out-of-area exercises to the North and Norwegian seas, the regular monitoring of Western naval exercises, the entry of a small force of surface ships and submarines into the Mediterranean during the Cyprus crisis in 1964, the adoption of replenishment-at-sea practices, the more frequent conduct of submarine patrols in distant waters, and a round-the-world submerged cruise by a group of nuclear-powered submarines in 1966. In this period, increased attention also was given to improving off-shore ASW capabilities against *Polaris* submarines, a mission described in 1963 as "the most important task of the Soviet Navy,"<sup>36</sup> as well as to improving Soviet amphibious-landing capabilities by introduction of new types of landing ships and reactivation of naval infantry forces in 1964.

In interaction terms, the upsurge of Soviet naval activity between 1962 and 1967 has been variously interpreted. According to some views, it can be attributed primarily to the shock of the Cuban episode itself, which, by demonstrating Soviet inability to contest U.S. control of the sea approaches to Cuba, led the Soviet leadership to embark on corrective measures paralleling the post-Cuba buildup of land-based ICBM forces. A variant of this view ascribes a central role to Admiral Gorshkov himself, who is said to have been so rankled by the Cuban "fiasco" that he ordered his fleet commanders to get their forces to sea and keep them there.<sup>37</sup>

According to another interpretation, the Cuban events had little to do with the progressive forward deployment of Soviet naval forces after 1962. Rather, a continuation of the process of seeking strategic

<sup>36</sup> Marshal V. D. Sokolovskii, et al., *Voennaya Strategia* (Military Strategy), 2nd ed., Voenizdat, Moscow, 1963, p. 398. As compared with the first edition of this work in 1962, the second edition in 1963 reflected a pronounced increase of emphasis on the need for vigorous measures to counter the *Polaris* threat.

<sup>37</sup> See Commander T. G. Martin, USN, in *United States Naval Institute Proceedings*, December 1970, p. 50.



defense against the carrier and *Polaris* threats is said to have drawn the Soviet Navy forward, with the critical factor during this period having been successive increases in the range and lethality of American submarine-launched ballistic missiles: for example, the *Polaris* A-1, which was becoming available in operational numbers by 1961, had a range of 1200 nautical miles; the A-2, operational in June 1962, 1600 nautical miles; the A-3, operational in September 1964, 2500 nautical miles; while in 1965 came authorization to develop the Poseidon missile of equal range and greater payload than the A-3.<sup>38</sup>

A third interpretation, to which the author of the present paper would subscribe, considers essentially that single-factor explanations of Soviet naval policy are unsatisfactory, and that both a response to the "lessons" of Cuba and to the changing dimensions of the seaborne strategic threat were probably involved in the period in question. In addition, Soviet naval programs which began to come to fruition in the mid-sixties under the Brezhnev-Kosygin regime had their genesis for the most part in development activities initiated earlier under Khrushchev, so that a considerable element of continuity independent of response to immediate events must also be recognized.

This is not to imply, however, that a single optimal plan laid down in the naval policy decisions of the mid-fifties was undeviatingly followed thereafter. There were, for example, occasional internal debates over roles and missions, particularly with regard to the Soviet Navy's share of strategic strike functions, an issue which seems to have been especially contentious from 1959 to at least 1963.<sup>39</sup> Incidentally, the very fact that the outcome of this internal debate was generally favorable to the Soviet Navy, according it a charter to go ahead with a major

<sup>38</sup> For a previously-cited argument along this line, see Michael McGwire's articles in *Congressional Record*, July 1, 1971, pp. E 6852-6853. See also Geoffrey Jukes in *Adelphi Papers No. 87*, The International Institute for Strategic Studies, London, May 1972, pp. 5-8.

<sup>39</sup> For discussion of this issue, see Wolfe, *Soviet Strategy at the Crossroads*, pp. 186-187, and Herrick, *Soviet Naval Strategy*, pp. 87-99.

expansion of SLBM forces, would suggest that the energies of the naval command were not exclusively devoted to planning defenses against the U.S. seaborne strategic threat.

## 2. Heightened Western Perception of Soviet Naval Competition

The turning point in Western awareness of the Soviet Union as an emerging naval competitor doubtless came in the summer of 1967, when the Arab-Israeli conflict opened the door for establishment of a substantial Soviet naval presence in the Mediterranean.<sup>40</sup> This dramatic departure from past Soviet practice not only gave Soviet naval power much greater visibility in waters which had been virtually the exclusive preserve of the Sixth Fleet and allied NATO navies, but it also had the effect of lending greater credence to Russian declarations that the Soviet Navy was henceforth prepared to operate "wherever required to protect the state interests of the USSR"<sup>41</sup> -- a notion relatively new to the Soviet political vocabulary and one suggesting that occasions for interaction between Soviet and Western naval forces could be expected to occur on a much wider geographic scale than in the past.

Another event in the Mediterranean in 1967 also had significant interaction implications. This was the sinking in October 1967 of the Israeli destroyer *Eilat* by a surface-to-surface cruise missile (Styx), fired from a *Komar*-class patrol boat manned by Egyptians. This incident, demonstrating that a conventional gun-equipped surface ship could be outranged and sunk by a small missile-firing patrol boat, served perhaps more than anything else to sensitize Western naval circles to the threat

<sup>40</sup> The Soviet naval detachment deployed to the Eastern Mediterranean during and immediately after the June 1967 war consisted of some 40 combat and auxiliary vessels, including a few submarines and two troop-landing ships. In subsequent years between 1967-1972, the size of this force fluctuated, averaging 16 combatants and on occasion going as high as 47 combatants (2 helicopter carriers, 6 cruisers, 17 destroyers and escorts, and 22 attack submarines), plus auxiliaries.

<sup>41</sup> See articles by Admiral V. A. Kasatonov, *Pravda*, July 30, 1967; Admiral N. Sergeyev, *Pravda*, July 30, 1967; Admiral S. G. Gorshkov, *Pravda*, July 27, 1969.

implicit in the Soviet Navy's adoption of anti-ship missile armament.<sup>42</sup> From this juncture onward, the Soviet potential to challenge Western surface supremacy came to be taken far more seriously than hitherto, as attested, for example, by the tart comment several years later of Vice-Admiral H. G. Rickover: " . . . our gun-equipped surface ships are considerably outranged by Soviet surface-to-surface cruise missiles and would suffer severe attrition in an engagement."<sup>43</sup>

If developments of 1967 in the Mediterranean were instrumental in awakening the West to the Soviet Union's emergence as a serious naval competitor, this perception was fed not only by more conspicuous activity of Soviet naval forces in waters close to home, but also by what appeared to be a steady geographic widening of Soviet naval deployments during the next few years.

Perhaps the first conspicuous example of the former came in January 1968 after the *Pueblo* incident when, in response to the dispatch of an American task force to the Sea of Japan, the Soviet Pacific fleet interposed a screening force of 16 ships between the American task force and the coast of North Korea. As for the latter, beginning with an initial good-will cruise by three Soviet warships to Indian Ocean and Persian Gulf ports in the spring of 1968, a small but steady-state deployment was maintained in these waters thereafter to show the Soviet flag.<sup>44</sup> In 1969, periodic naval visits to the Caribbean were initiated,<sup>45</sup>

<sup>42</sup> See Arnold M. Kuzmack, "Where Does the Navy Go From Here?" in *Military Review*, Vol. 52, No. 2, February 1972, p. 46; David Fairhall, *Russian Sea Power*, Gambit, Inc., Boston, 1971, pp. 229-230.

<sup>43</sup> *The Washington Post*, May 31, 1971.

<sup>44</sup> The initial contingent of Soviet warships consisted of a *Krupnyi*-class guided-missile destroyer, a *Kashin*-class conventional destroyer, and a *Sverilov*-class cruiser. From 1968 through 1971 a total of 33 surface warships, 13 submarines and 35 auxiliaries reportedly appeared in the Indian Ocean for cruises of varying duration. See Jukes, *The Indian Ocean in Soviet Naval Policy*, p. 15.

<sup>45</sup> From 1969 through 1971, eight Soviet naval excursions to the Caribbean took place, including exercises conducted in the Gulf of Mexico. Units involved in these visits included guided-missile surface ships, nuclear and diesel submarines, and support vessels. See "Testimony of Vice-Admiral Hyman G. Rickover," *Hearings Before a Subcommittee of the*

providing an opportunity for the first time since 1962 to test American reaction to the presence of Soviet armed forces at the southern doorstep of the United States. Except for an American demand in the fall of 1970 for assurance that facilities built at the Cuban port of Cienfuegos would not be used to service Soviet nuclear submarines, this probing indicated American tolerance of continuing naval visits to the Western Hemisphere.<sup>46</sup> Elsewhere, in African waters off the coast of Ghana in 1969, Guinea in 1970, and Sierra Leone in 1971, Soviet warships showed up to engage in what appeared to be ventures in gunboat diplomacy,<sup>47</sup> while in September 1971 a Soviet task force including several guided-missile ships cruised for the first time in Hawaiian waters.<sup>48</sup>

The net of these out-of-area deployments, together with extended submarine patrols in the Atlantic and Pacific, inter-fleet transfers, intelligence collection activities at sea, and major combined fleet exercises in the Atlantic such as *Sever* in 1968 and *Okean* in 1970, amounted to an estimated tenfold increase in the operational days spent by the Soviet Navy outside its home waters from about mid-1965 to mid-1971.<sup>49</sup> The largest number of out-of-area days occurred in the Mediterranean and Atlantic.<sup>50</sup> While no breakdown of out-of-area operational time into various mission categories is available, at least not to the author of this paper, the variety of deployments and geographic areas involved would suggest that in addition to outward extension of a maritime defense perimeter around the Soviet Union, which might be explained

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*Committee on Appropriations, House of Representatives, 92nd Congress, U.S. Government Printing Office, Washington, D.C., 1972, p. 478 (hereafter cited as Rickover Testimony).*

<sup>46</sup>The Soviet Union's response in October 1970 that it was not building "its own base" in Cuba was taken to mean that it acceded to the American protest, although no specific assurances were given, at least publicly, that Soviet nuclear submarines would stay out of the area.

<sup>47</sup>See James M. McConnell, *The Soviet Navy in the Indian Ocean*, Paper No. 77, Center for Naval Analyses, Arlington, Va., August 1971; Weinland, *The Changing Mission Structure of the Soviet Navy*, pp. 11-12.

<sup>48</sup>*Rickover Testimony*, p. 478.

<sup>49</sup>See Weinland, p. 7.

<sup>50</sup>*Rickover Testimony*, p. 477.

largely in terms of reaction to the longer reach of American seaborne strategic arms, Soviet naval forces were also taking on new responsibilities for support of worldwide Soviet political interests linked in no direct way with homeland defense. In the latter connection, it is of some interest that Admiral Gorshkov, in a recent series of articles on the historical development of the Russian and Soviet navies, chose to emphasize the theme that Imperial Russia's rulers paid heavily for not understanding "the significance of sea power" in the "attainment of political goals."<sup>51</sup>

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### 3. Soviet Naval Building Programs

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<sup>51</sup>See S. G. Gorshkov, "Navies in War and Peace," *Morskoï Sbornik*, No. 4, April 1972, p. 23.

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internal technological factors and institutional hassling over resources and mission priorities or to the impact of external developments and threat reappraisals, is not clear. On the whole, however, it seems fair to say that there was a reasonably coherent pattern of pursuing the main trend set in the late fifties toward incorporating missile technology in submarines and relatively small but fast surface units ranging from patrol boats at one end of the spectrum to cruisers of up to about 7500 tons at the other.

#### a. Submarine Programs

In the submarine field, the Soviets did not quit building diesel classes as many expected after the first Soviet nuclear-powered submarines became available in the late fifties. Rather, both the J-class cruise missile and G-class ballistic missile production runs were continued well into the sixties, with the latter undergoing conversion into the G-II class beginning about 1962.<sup>53</sup> Although new construction after the mid-fifties shifted largely to nuclear designs, at least one new diesel type, the short-range B-class, was still in production by 1970.<sup>54</sup>

The principal Soviet submarine program undertaken in the sixties and still going strong in the early seventies was the Y-class program intended to give the Soviet Union a ballistic missile launching submarine roughly comparable to the U.S. *Polaris*. The decisions to begin this program apparently came around 1963,<sup>55</sup> at the same time that post-Cuba decisions bearing on buildup of the SS-9 and SS-11 ICBMs presumably were being thrashed out. Whether the Y-class program gained impetus from the same post-Cuba syndrome which helped to spur the land-based ICBM buildup, or whether the Soviet naval command would have managed to make a case for trying to match the *Polaris* without the stimulus of Cuba, the Y-class program does appear to have been much more closely coupled to the American example than other Soviet submarine developments.

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<sup>53</sup>The G-II class was re-equipped with SS-N-5 ballistic missiles.

<sup>54</sup>See Shadrin, op. cit., p. 140.

<sup>55</sup>Ibid., p. 139.

Incidentally, at the time the Y-class program was being authorized, the prevailing impression in the West was that the United States enjoyed an SLBM lead unlikely to be threatened for many years. There had been a brief flurry of concern in the late fifties, paralleling the "missile gap" alarm, over the strategic strike potential of Soviet ballistic missile submarines.<sup>56</sup> However, the rather small force of mixed diesel and nuclear submarines which actually materialized by 1963, the limited range of the few missiles which each carried, the noisiness and other characteristics of the Soviet submarines themselves -- all contributed to the impression that earlier estimates of the Soviet underwater strategic potential had been overdrawn.

Here the question arises whether a relaxed, stand-pat position by the United States in the SLBM field would have removed the incentive for Soviet efforts to catch up, and thus have produced a kind of stasis in this area of strategic competition. Though this is one of the questions at the heart of the interaction issue, it is essentially unanswerable, and assertions leaning one way or the other must take the place of proof. In any event, one might note that had complacency over the American lead ruled out further efforts to improve the original American SLBM capability, the Y-class program actually pursued by the Soviets would have enabled them virtually to catch up with U.S. technology in this field with their first matching effort. As it was, they continued to trail qualitatively into the seventies.

In quantitative terms, the Y-class program did much better. The first unit of this class, equipped with 16 tubes for submerg launch of the 1300-nautical mile SS-N-6 ballistic missile, was completed in 1967. A construction program first estimated at eight boats a year, later upped to nine or ten, gave the Soviets 25 operational Y-class submarines by early 1972, with 17 more in various stages of assembly.<sup>57</sup> These estimated figures, incidentally, appear to have been low of the mark, since in the last-minute negotiations on the SALT-I agreements at

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<sup>56</sup> See p. 19 above.

<sup>57</sup> See *National Security Strategy of Pallistic Interpenetration*, Secretary of Defense Melvin R. Laird's Annual Defense Department Report, FY 1973, Washington, D.C., February 22, 1972, p. 39.

the Moscow summit in May 1972, the Soviets themselves claimed 48 boats built or building with a total capacity of 768 missiles,<sup>58</sup> and presumably they should know.<sup>59</sup>

Qualitatively, the Y-class submarines which entered service in the late sixties proved to be somewhat similar to the early U.S. Ethan Allen generation of SSBNs, though the Y-class had greater horsepower and a submerged speed advantage.<sup>60</sup> Its disadvantages included noisier operation, but lay chiefly in a missile system, the SS-N-6, which was inferior to the improved *Polaris* and *Poseidon* systems, being not only liquid-fueled but having a range only about that of the *Polaris* A-1. From the Soviet standpoint, range was perhaps a less critical consideration than in the U.S. case, since most of the lucrative targets for strategic attack in the United States lie much closer to the sea than those on the Soviet land mass. While shorter range Soviet SLBMs might thus appear to suffice, an extension of their range would certainly afford greater operational flexibility.

Testing of a new Soviet missile system, with a range of about 3000 nautical miles, began in 1969, without indication at the time as to

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<sup>58</sup> As disclosed at the Press Conference of Dr. Henry A. Kissinger, Assistant to the President for National Security Affairs, Intourist Hotel, Moscow, May 27, 1972. See transcript, p. 107, in *Military Implications of the Treaty on the Limitations of Anti-Ballistic Missile Systems and the Interim Agreement on Limitation of Strategic Offensive Arms*, Hearing Before the Committee on Armed Services, U.S. Senate, 92nd Congress, U.S. Government Printing Office, Washington, D.C., 1972 (hereafter referred to as *Military Implications of the ABM Treaty and the Interim Agreement on Strategic Offensive Arms*). It may be noted that the U.S. estimate of 42 submarines would yield a total of 672 missiles if each Y-class boat were equipped with 16 missiles. According to Dr. Kissinger, a compromise figure of 710 missiles was adopted for the purposes of the agreement, but no current figure for the number of submarines built or building was mutually established. This ambiguity, as Kissinger's remarks suggest, was apparently related to the fact that an undetermined number of Y-class units were being modified to carry 12 instead of 16 missiles.

<sup>59</sup> It has been charged by Senator Henry M. Jackson that the Russians deliberately inflated the total number of Y-class submarines in order to obtain a higher ceiling under the interim agreement. See "Jackson Says Russians Lied About Subs," *New York Times*, August 16, 1972. While it would be important to nail down the validity of this claim, the issue is too complicated to be explored further here.

<sup>60</sup> See Shadrin, op. cit., p. 140.



whether this missile, later identified as the SS-N-8,<sup>61</sup> was to be carried by an existing or a new submarine class. However, by the time the SALT I agreements were reached in 1972, it appeared that this missile was being backfitted into the Y-class,<sup>62</sup> rather than being primarily incorporated in a new hull design.<sup>63</sup> Although the replacement of the SS-N-6 missile by the SS-N-8 would improve the armament of the re-configured Y-class submarine, the lack of a MIEV capability, such as introduced into the American SSBNs from mid-1970 on, still appeared to constitute a qualitative shortcoming of the Y-class in the early seventies.

Besides the Y-class, the Soviet submarine building program yielded two other new nuclear-powered classes, which also may have been authorized about the same time as the Y-class. These were the C-class, armed with a new generation of cruise missiles, the SS-N-7, which could be fired from underwater, and the V-class, a torpedo attack submarine probably intended to succeed the N-class in an ASW and anti-shipping role.<sup>64</sup>

Altogether, the submarine building program of the 1963-1972 period, together with retirement of older classes and some sales abroad, gave the Soviet Union a modernized but somewhat smaller submarine fleet than it possessed at the start of the period -- a force clearly reflecting the changes brought about by the introduction of nuclear and missile

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<sup>61</sup> See Michael Getler, "Soviet Revamping Missile Submarines," *The Washington Post*, May 31, 1972. The SS-N-8, or Sawfly, was later reported to incorporate a stellar inertial guidance system which should substantially improve its accuracy. See William Beacher, "Soviet Advance on Missile Scene," *The New York Times*, October 1, 1972.

<sup>62</sup> As indicated by Secretary Laird, some Y-class submarines were being modified to carry "more modern, longer range missiles," but this meant fitting them with 12 missile tubes rather than 16 "because of the space requirements that are involved." See *Military Implications of the ABM Treaty and the Interim Agreement on Strategic Offensive Arms*, p. 158.

<sup>63</sup> A new submarine class would not be ruled out by the interim SALT I agreement, provided the total operational number of modern SSBNs did not exceed the limit of 62 fixed for the Soviet Union.

<sup>64</sup> The N-class was the first Soviet nuclear-powered submarine, which had begun building around 1956. Along with the diesel-powered R-class of the same time period, it apparently was designated for both ASW and anti-ship operations. See Shadrin, op. cit., p. 136.

technology. As of April 1972, approximately 30 percent of the 345 submarines in active service were nuclear-powered types. Categorized by roles, about 20 percent of the force consisted of cruise-missile submarines primarily for anti-ship use, about 15 percent were ballistic-missile launching types for strategic delivery purposes, and 65 percent were attack submarines for anti-ship, ASW, and mining roles.<sup>65</sup>

#### b. Surface Programs

Continuing the trend toward guided-missile ships established in the late fifties, surface ship construction in the 1963-1972 period provided new units of this kind in both cruiser and destroyer categories. In the cruiser category, in addition to the *Kynda*-class guided-missile cruiser combining surface-to-surface and surface-to-air missile armament which first became operational in 1962, the similarly armed but slightly larger *Kresta*-class came into service in 1967.<sup>66</sup> By 1972, there were 13 units of these two classes operational, and a program for a third undesignated missile cruiser class about twice the size of the *Kresta* was reportedly under way.<sup>67</sup> The latter marked a departure from the concept of relatively small guided-missile cruisers, suggesting that greater range and endurance may have become a criterion for future surface force development.

<sup>65</sup> Source: *Comparison of U.S. and USSR Naval Combatants*, Tables prepared by the Office of the Chief of Naval Operations, Washington, D.C., April 1, 1972 (Unclassified). The breakdown by numbers as of April 1972 was as follows

<u>Cruise-Missile Subs</u>	<u>Number</u>	<u>Classes</u>
Nuclear	37	E, C
Diesel	28	J, W
<u>Ballistic-Missile Subs</u>		
Nuclear	35	H, Y
Diesel	20	G, Z
<u>Attack Subs</u>		
Nuclear	28	N, V
Diesel	197	F, G, W, Q, R, B

<sup>66</sup> A *Kresta-II* modification of 7500 tons displacement (the *Kresta I* was 6500 tons) appeared in 1969.

<sup>67</sup> William Beecher, "Soviet Reported Building Missile Cruisers Twice Previous Size," *The New York Times*, April 30, 1972. According to this report, three new missile cruisers of 12,000 to 15,000 tons were on the ways, and in addition, three still larger ships of the old *Sverdlov*-class were being converted to missile armament.

said for the longer-range submarine cruise-missile system (SLCM) proposed by the Department of Defense following the SALT agreements.<sup>79</sup>

The Soviet practice of using strategic aircraft for support of naval operations was another example apparently deemed worthy of emulation; at least, it seems to have inspired suggestions for closer cooperation between U.S. Air Force long-range strategic aircraft and naval forces at sea.

Despite these and perhaps other cases in which the United States would appear to have taken a leaf from the Soviet example, there were, of course, important instances in which the Soviet Union continued to be essentially the emulative partner in the interaction process. The Soviet decision to put resources into the *Moskva*-class helicopter carriers, for example, may have been partly influenced by the long U.S. practice of using carriers especially equipped for ASW purposes, although, as pointed out earlier, both the organic design and the deck-loading of the *Moskva*-class differ greatly from the American CVS units.<sup>80</sup>

The impact of the American example on Soviet thinking about carrier forces in general also bears mention. Although rejecting the utility of the attack carrier in the context of a nuclear war, the Soviets have not questioned the value of diversified carrier capabilities in a variety of situations short of such a war. Thus, with regard to the large flight-decked hull under construction at Nikolayev, one might surmise that, even though it may owe little design-wise to American carriers, the decision to build it may have stemmed in part from a belief that the Soviet Union could not expect to compete favorably with the United States in a variety of possible circumstances unless it were willing to develop some sort of shipborne aviation capabilities of its own.

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<sup>79</sup>In explaining the grounds for the SLCM proposal, Secretary Laird pointed out that since "the Soviet Union already has close to 70 cruise missile submarines . . . this is a very important program for us to push at this time." See *Military Implications of the ABT Treaty and the Interim Agreement on Strategic Offensive Arms*, p. 54.

<sup>80</sup>See page 33 above.

In this connection it may be noted that the concept of special purpose ASW carriers had been around for a long time for the Russians to ponder, going back to the small "jeep" carriers employed for this purpose by the United States in World War II. The present American CVS types, of which two are in active service, are converted for an ASW support role from CVAs. Unlike the *Moskva*, the CVS carriers rely primarily on fixed-wing aircraft and are not themselves heavily armed, although they do employ some helicopters. The principal U.S. ships used as helicopter platforms, the *Iwo Jima*-class of about 18,000 tons, have primarily a vertical envelopment role in amphibious landing operations. To date, the *Moskva*-class apparently has not functioned in this role.

The *Moskva*-class helicopter carrier introduced in 1967 aroused great interest in the West not only because it promised to provide a new capability for command of Soviet ASW task force operations well out to sea, but also because it raised the question whether the Soviets might turn next to development of some other form or forms of seaborne aviation. By the early seventies there was as yet no conclusive answer to this question, but several indications pointed definitely in such a direction.

One strong indication was cumulative evidence that a large hull under construction at Nikolayev on the Black Sea might be a carrier of some kind. Confirmation that this ship, in the 30,000-ton class, was indeed a carrier platform, probably intended for launching STOL or VTOL aircraft, came in August 1972, although the role in which it might eventually be employed was not delineated.<sup>71</sup> Material in the Soviet military press also suggested a live Soviet interest in developing shipborne aviation of some kind.

An example of the latter was an article in May 1972 by a Soviet Navy captain dealing critically with U.S. motivations behind the concept

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<sup>71</sup>The first authoritative statement ruling out earlier rumors that the Nikolayev hull might be a tanker rather than an aircraft-related platform was made in Congressional testimony by Admiral Elmo R. Zumwalt, Jr., in March 1972, not released until August 12, 1972. "Soviets Reported Building a Carrier," *The Washington Post*, August 13, 1972.

of small "air-capable" ships to supplement traditional attack carriers.<sup>72</sup> Although ostensibly treating the concept as "an old idea in new dress," the article at the same time exposed a number of arguments in its favor, such as its relative economy and its potential contributions to ASW, shows of naval strength, and other tasks "beyond the zones protected by land-based aircraft," all of which were presumably features of interest to the Soviet naval command. Notably, one point singled out as a vulnerable spot in the concept -- U.S. lack of aircraft with suitable short-landing characteristics -- was one where by implication the Soviet Union might enjoy an advantage by virtue of having a family of STOL and VTOL aircraft under development.

Given the familiar Soviet technique of citing foreign experts and practices to argue an internally controversial case which it is not expedient to address directly, it might be surmised that the article in question represented a bit of indirect lobbying for the proposition that the Soviet Union itself should devote requisite resources to developing some sort of air-capable ships of its own, short of "traditional" attack carriers. Two other possibilities might also be mentioned. One, that the article was essentially a threat assessment, warning that the Soviet Navy might have to face an additional form of U.S. threat at sea. Second, that the article reflected internal decisions already taken, and was simply a step in preparing public justification for eventual Soviet deployment of air-capable ships, on the grounds that they are needed to counter what Shiltov called the "aggressive plans" of the "military bosses of imperialist policy."

#### 4. Closer Naval Interaction

If at the beginning of the sixties the Soviet Union had been regarded as a relatively unimpressive naval power, except for its large submarine force, the pendulum had clearly swung the other way a decade later. Indeed, by the time of the SALT I agreements in early 1972, it was felt in some quarters in the West that there had been an overreaction to the Soviet naval challenge, and a public debate was shaping up between those who warned that U.S. naval ascendancy was slipping away and those

<sup>72</sup> Captain First Rank V. Shiltov, "An Old Idea in New Form," *Krasnaya zvezda*, May 17, 1972.

who argued that the Soviet Navy still remained far behind in most categories of naval power.

The accumulating literature on both sides of this question is too extensive for review here, but a few examples may be noted. A prominent proponent of the view that the Soviet naval challenge had been vastly overrated was Senator William Proxmire, who in the Spring of 1972 exchanged a series of letters on the subject with Admiral Elmo R. Zumwalt, Chief of Naval Operations.<sup>73</sup> Other criticisms of tendencies to overreact to the Soviet naval buildup were voiced by such analysts as Michael McGwire and John Erickson.<sup>74</sup> Among those taking the opposite view was Raymond Blackman, editor of *Jane's Fighting Ships*, who in the 1971-1972 and 1972-1973 editions of this publication sounded successive warnings that U.S. naval strength was in a "serious decline" and that the expanding Soviet Navy could "snap its fingers at all the maritime countries." Spokesmen for a less alarmist but serious professional appraisal of growing Soviet naval strength included Admiral Zumwalt, who tended to stress the point that by optimizing their navy to counter one already in being, the Soviets had gained a number of advantages.<sup>75</sup>

Whatever the merits of the respective arguments over this issue, which it is not the purpose of the present paper to try to settle, it does seem obvious that the Soviet Navy's growing visibility on the world scene by the latter sixties and early seventies was accompanied by a much closer and more two-sided process of naval interaction than had previously been the case.

One manifestation of this was the increasing frequency of harassment at sea between Soviet and U.S. naval units, often resulting from their attempts to monitor each other's training exercises at close quarters. A particularly dramatic example of this activity occurred in May 1968 when a Soviet TU-16 jet bomber making a low pass close to the

<sup>73</sup> See Michael Getler, "Proxmire Claims Pentagon Exaggerates Russian Navy," *The Washington Post*, May 26, 1972.

<sup>74</sup> See respectively *Congressional Record*, July 1, 1971, p. E6851, and *Soviet Military Policy*, Royal United Services Institution, London, 1971.

<sup>75</sup> See *Navy*, May 1971, p. 113, and *U.S. News and World Report*, September 13, 1971, pp. 72-75.

U.S. carrier *Essex* crashed into the Norwegian Sea.<sup>76</sup> In a mutual effort to reduce the possibility of tension-producing incidents, the Soviet Union and the United States undertook direct negotiations between two naval delegations in Moscow in October 1971.<sup>77</sup> These talks led to the signing of an agreement to prevent incidents at sea on May 25, 1972, during the Moscow summit meeting.<sup>78</sup> The agreement, which covered measures to avert collisions or other dangerous encounters, but which did not question the right of mutual surveillance, marked the first such formal step to regulate the peacetime interaction between Soviet and U.S. naval forces growing out of their overlapping presence at sea.

Another notable aspect of closer naval interaction that became evident by the early seventies was recognition in the West that the Soviet Navy had been highly innovative in adapting new technologies to its needs, especially in attempting to optimize its capabilities against superior Western surface forces by a combination of surface, subsurface and air-launched anti-ship missiles. In a broad sense, this recognition might be said to have stimulated fresh thinking within the U.S. Navy as to its own future course -- whether, for example, to try to "counter-optimize" against the Soviet Navy, which might offer some economy in an era of rising defense costs, or whether to pursue programs offering a broader and more flexible range of capabilities, but costing more.

In a narrower reactive sense, Soviet innovative accomplishments were also recognized in some cases by paying them the compliment of emulation. Thus, the Soviet example probably provided much of the stimulus for accelerated U.S. development in the early seventies of the Harpoon surface-to-surface tactical missile system, while the same can be

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<sup>76</sup>This accident was one of more than 100 near-collisions and other incidents which reportedly occurred in the sixties and early seventies. *New York Times*, October 23, 1971.

<sup>77</sup>The U.S. delegation was headed by then Under Secretary of the Navy John W. Warner and the Soviet delegation by Admiral V. A. Kasatonov, First Deputy Commander of the Soviet Navy.

<sup>78</sup>The naval agreement, which preceded the SALT I signing ceremony by one day, was signed by Secretary of the Navy Warner and Admiral S. G. Gorshkov, Commander of the Soviet Navy. See Frank Starr, "Sea Incidents Fact Signed," *Telegraph*, London, May 26, 1972.

said for the longer-range submarine cruise-missile system (SLCM) proposed by the Department of Defense following the SALT agreements.<sup>79</sup>

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<sup>80</sup>See page 33 above.



But the field in which there was most clearly Soviet emulation of the United States, and in which strenuous Soviet efforts were made to overcome an American advantage in the late sixties and early seventies, was doubtless that of SLBM forces. Here, the interaction process went on at two different levels, so to speak. The first involved the unilateral SLBM programs on each side: in the Soviet case, primarily the Y-class building program, already described; and in the American case, programs to improve the existing force of 41 SSBNs by introduction of MIRVed Poseidon, as well as R&D on the ULMS system envisaged as a follow-on submarine-missile combination to begin replacing the old force by the late seventies.

The second forum of interaction was provided by the strategic arms limitation talks which began toward the end of 1969. So far as the SLBM issue was concerned, these negotiations were marked by American attempts to bring SLBMs under limitation, presumably reflecting U.S. concern about the momentum of the Y-class building program<sup>81</sup> and by Soviet reluctance to entertain constraints on SLBM forces while the United States still held a numerical and technological edge. By the spring of 1972, thanks both to apparent Soviet satisfaction that the numerical gap had been redressed and to the atmosphere attending the Moscow summit meeting in May, conditions were created which permitted resolution of the negotiating standoff on the SLBM issue. According to Dr. Kissinger, the Soviet leaders agreed "in principle" at the end of April 1972, after "a long period of hesitation," to include ballistic missile launching submarines in the SALT I agreements. There was, however, some hectic last-minute bargaining at the Moscow summit in May over an SLBM formula.<sup>82</sup>

It remains to be seen how the next round of the SALT talks may affect the SLBM formula that was incorporated in the Interim Agreement

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<sup>81</sup> At least, part of the rationale later advanced by U.S. Government spokesmen to justify a differential numerical ceiling rested on the argument that without an agreement, the unilateral momentum of the Y-class buildup would have led to a larger force than permitted by the agreement. See, for example, comments by Secretary Laird in Congressional testimony, in *Military Implications of the ABM Treaty and the Interim Agreement on Strategic Offensive Arms*, pp. 25, 47, 160.

<sup>82</sup> Ibid., pp. 110, 120.

on limitation of strategic offensive arms. Here, suffice it to say that under the differential ceilings on modern ballistic missile submarines and launchers established by the SALT I accords, the Soviet Union had managed finally to gain its adversary's assent to Soviet numerical superiority in SLBM forces, thus seeming to leave the next phase of interaction in this area of strategic competition to center on the qualitative aspects of such forces.